

REMARKS

In view of the following remarks, the Examiner is requested to withdraw the rejections and allow Claims 1-17 and 29-41, the only claims pending and currently under examination in this application.

Claim Rejections - 35 USC § 103(a)

Claims 1-17 and 29-41 were rejected under 35 U.S.C. 103(a) as being obvious over Kneezel et al. (US Patent No. 5,939,206), in view of McDevitt et al. (US Patent No. 6,713,298).

In order to meet its burden in establishing a rejection under 35 U.S.C. §103, the Office must first demonstrate that a prior art reference, or references when combined, teach or suggest all claim elements. See, e.g., KSR Int'l Co. v. Teleflex Inc., 127 S.Ct. 1727, 1740 (2007); Pharmastem Therapeutics v. Viacell et al., 491 F.3d 1342, 1360 (Fed. Cir. 2007); MPEP § 2143(A)(1). In addition to demonstrating that all elements were known in the prior art, the Office must also articulate a reason for combining the elements. See, e.g., KSR at 1741; Omegaflex, Inc. v. Parker-Hannifin Corp., 243 Fed. Appx. 592, 595-596 (Fed. Cir. 2007) citing KSR. Further, the Supreme Court in KSR also stated that that "a court must ask whether the improvement is more than the predictable use of prior art elements according to their established functions." KSR at 1740. As such, in addition to showing that all elements of a claim were known in the prior art and that one of skill had a reason to combine them, the Office must also provide evidence that the combination would be a predicted success.

In maintaining the rejection, the Examiner alleges that Kneezel et al. teaches a single orifice plate (31 in Fig. 2), comprising a plurality of orifices (27). The Examiner further alleges that Kneezel teaches a plurality of thermal printhead dyes each comprising a top surface (a portion of 30, in col. 19, line 56) and bottom surface (bottom surface of element 28), wherein the top surface (30) comprises a plurality of resistors (electrodes 33) and is bonded together to a surface of said orifice plate (31 in Fig. 2). The Examiner notes that "element 30 is considered to be formed of a plurality of portions of element 30, each portion forming a printhead dye" (Office Action, p. 2).

An element of the claimed invention is the presence of multiple printhead dies bonded to an orifice plate. In other words, a single orifice plate has more than one printhead die bonded to it. As reviewed in the specification, a given printhead die includes a set of plural activatable pulse generating members (e.g., an embodiment of which is resistors as claimed) and activation elements therefore on the surface of a substrate. (See page 7, lines 14-21).

For example, a printhead having two printhead dies (A and B), each with five resistors (A 1-5) and (B 1-5), results in printhead die A and printhead die B bonded to the same orifice plate such that five individual orifices align with resistors (A 1-5) and another five orifices align with resistors (B 1-5), respectively.

The Office alleges, however, that "there is no requirement that the printhead dies each be non-integral with each other, and thus, portions of element 30 as disclosed in the Kneezel invention comprise all the elements are recited in Applicant's claims regarding a printhead dye...for example, any two or three adjacent resistors on element 30, i.e., a portion of element 30 comprising a plurality of resistors, is equivalent to a printhead dye as recited by Applicant." (Office Action, p. 6-7)

The Applicants, however, strongly disagree with this assertion. For convenience, Figure 2 of Kneezel is reproduced below:

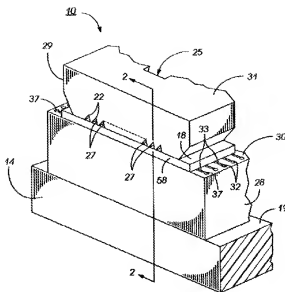


FIG. 2

A review of Fig. 2 of Kneezel shows top surface 30 of element 28, which the Examiner is equating to "a plurality of thermal printhead dies". The Examiner is alleging that "any two or three adjacent resistors on element 30, i.e., a portion of element 30 comprising a plurality of resistors, is equivalent to a printhead dye as recited by Applicant." It appears to the Applicants that the Examiner is asserting that a single element, i.e., element 30, can arbitrarily be divided into "portions", wherein each "portion" consists of "any two or three adjacent resistors" and thus Kneezel anticipates the current claims.

However, as stated in the previous response, it is not clear to the Applicants how element 30 is allegedly equivalent to the “plurality of printhead dies” of the claimed invention. For example, as in the above discussion, it is not understood how surface 30 can be considered to be comprised of printhead die A and printhead die B, bonded to the same orifice plate, because nowhere in Kneezel is there the teaching or suggestion that surface 30 comprises “portions”.

Furthermore, it is not clear to the Applicants how the alleged portions of element 30 in Kneezel could teach or suggest the element “wherein said printhead comprises from 2 to about 10 printhead dies” as in Claims 2, 11, and 31, or the

element "wherein said printhead comprises from 2 to 5 printhead dies as in Claims 3, 12, and 32, or the element "wherein said printhead comprises 3 printhead dies", as in Claims 4, 13, and 33. Using the Office's definition of printhead dies as applied to Kneezel, it is not clear to the Applicants how many "portions" there might be in element 30.

Nor is it clear how surface 30, which appears in the drawings and the description of Kneezel to be a single unit, can be considered to be multiple printhead dies which are oriented "parallel to each other", as in Claims 39-41.

In contrast to the Examiner's assertion that there is "no requirement that the printhead dies be separate", the Applicants maintain that it is clear from both the claim language and the specification and that the printhead dies are separate. For example, the claims are directed to a "multiple die printhead comprising...a plurality of thermal printhead dies each comprising a top and bottom surface" which clearly indicates more than one separate printhead die.

Furthermore, the Applicants maintain that in the specification it is clear that the printhead dies are separate. For example, printhead dies are disclosed as having a specific height, width, and length, as reproduced below:

"The overall dimensions of the printhead dies as described above vary, but in many embodiments, the width of each of the printhead dies on the printhead ranges from about 2 to about 10 mm, usually from about 3 to about 6 mm; the length of each of the printhead dies ranges from about 6 to about 50 mm, usually from about 10 to about 30 mm and the height of each of the printhead dies ranges from about 0.4 to about 1.5 mm, usually from about 0.6 to about 1 mm." (p. 10, lines 18-23)

In addition, the discussion in the specification of the manufacture of printhead dies also makes it clear that the printhead dies are a plural entity (p. 13, lines 10-14).

Therefore, the Applicants maintain that it is clear from both the claims and specification that printhead dies are plural. The Applicants also assert that "[w]hen the applicant states the meaning that the claim terms are intended to have, the claims are examined with that meaning, in order to achieve a complete exploration of the applicant's invention and its relation to the prior art." *In re Zletz*, 893 F.2d 319, 321 (Fed. Cir.1989).

Accordingly, the Applicants maintain that as one of skill in the art would understand it, the specification and claims clearly refer to more than one printhead die, and therefore, as Kneezel et al. fail to teach or suggest the claimed element of a

plurality of thermal printhead dies bonded to a surface of a single orifice plate, Kneezel does not anticipate the current claims.

Because McDevitt et al. was cited solely for teaching that an array of biopolymers such as DNA and proteins can be applied onto a substrate through a dispense head that is made using technology essentially identical to that used in "ink-jet" printer heads, McDevitt et al. fail to make up for the fundamental deficiency between Kneezel et al. and the invention in the present case.

As such, Kneezel et al. in view of McDevitt et al. fail to teach or suggest all of the elements of claims. Applicants respectfully request that the rejection of Claims 1-17 and 29-41 under 35 U.S.C. 103(a) be withdrawn.

CONCLUSION

In view of the amendments and remarks above, the Applicants respectfully submit that all of the claims are in condition for allowance, which action is requested. If the Examiner finds that a telephone conference would expedite the prosecution of this application, please telephone Bret Field at (650) 327-3400.

The Commissioner is hereby authorized to charge any fees under 37 C.F.R. §§ 1.16 and 1.17 which may be required by this paper, or to credit any overpayment, to Deposit Account No. 50-1078.

Respectfully submitted,

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